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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,809	04/18/2001	Thomas F. La Porta	47-1-17	8516

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EXAMINER	
BEAMER, TEMICA M	
ART UNIT	**PAPER NUMBER**
2681	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/837,809	LA PORTA ET AL.	
	Examiner	Art Unit	
	Temica M. Beamer	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 21-26* is/are rejected.

7)☒ Claim(s) *14-20 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/16/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7-13 and 21-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Hall et al (Hall), U.S. Patent No. 6,438,383.

Regarding claims 1, 21 and 24, Hall discloses a method of paging mobile hosts over an Internet protocol (IP) network, comprising: coupling base stations to the IP network wherein one or more base stations define associated paging areas (col. 7, lines 15-66 and col. 11, lines 7-26; figure 3A); initiating a page request for a mobile host at a given node of the network when data on the network is addressed to the host and the host is in a standby state in which the host informs nodes of the network only when a new point of attachment with the network is a base station of a paging area different from a paging area of a last point of attachment with the network (col. 8, line 44-col. 9, line 13 and col. 11, line 49-col. 12, line 20); delivering the page request to the mobile host by directing the request to one or more base stations within a current paging area for the host, and transmitting the request from one or more base stations in the current

paging area(col. 8, line 44-col. 9, line 13 and col. 11, line 48-col. 12, line 20); receiving a page response from the mobile host at a base station in the current paging area in response to the transmitted page request (col. 11, lines 62-66); developing updated routing information for the mobile host from the page response (col. 11, lines 62-66); and delivering the data addressed to the mobile host according to the updated routing information developed for the host when the host transitions to an active state (col. 11, line 48-col. 12, line 23).

Regarding claim 2, Hall discloses the method of claim 1, including receiving the data addressed to the mobile host at a home agent (PDN) on the network, initiating the page request from the home agent, and directing the page request from the home agent to at least one of the base stations in the paging area for mobile host (col. 7, lines 39-67).

Regarding claim 3, hall discloses the method of claim 2, including directing information to the home agent concerning a current location of the mobile host from a base station that receives the page response from the mobile host (col. 7, lines 39-67, col. 8, line 44-col. 9, line 5).

Regarding claim 4, Hall discloses the method of claim 2, including inherently buffering the data addressed to the mobile host at the home agent when the host is in the standby state as evidenced by the fact that the packet data is not immediately sent to the mobile host (col. 11, lines 49-66).

Regarding claim 5, Hall discloses the method of claim 4, including delivering the data buffered at the home agent to the mobile host when the host transitions to the active state (i.e., when the mobile host confirms) (col. 11, lines 49-66).

Regarding claim 7, Hall discloses the method of claim 2, including directing the page request from the home agent to the base stations according to a selected one of a fixed paging algorithm, a hierarchical paging algorithm, or a last-location paging algorithm (col. 10, lines 52-66).

Regarding claim 8, Hall discloses a method according to claim 1, including receiving data addressed to the mobile host at a home agent on the network, and tunneling the data from the home agent to a designated foreign agent on the network (col. 7, line 62-col. 8, line 11).

Regarding claim 9, Hall discloses the method of claim 8, including designating a last serving base station in the paging area for the mobile host as a last foreign agent, and buffering the tunneled data from the home agent at the last foreign agent (col. 11, lines 49-66).

Regarding claim 10, Hall discloses the method of claim 9, including initiating the page request from the last foreign agent, and directing the page request to at least one of the base stations in the paging area (col. 8, line 44-col. 9, line 5 and col. 11, line 49-col. 12, line 12).

Regarding claim 11, Hall discloses the method of claim 10, including transmitting to the home agent a current location of the mobile host from a base station that receives

the page response from the host, and designating the base station that receives the page response as a current foreign agent (col. 11, lines 49-66).

Regarding claim 12, Hall discloses the method of claim 11, including delivering the data buffered at the last foreign agent to the mobile host through the current foreign agent, when the mobile host transitions to the active state (col. 11, line 48-col. 12, line 23).

Regarding claim 13, Hall discloses the method of claim 10, including directing the page request from the last foreign agent to the base stations according to a selected one of a fixed paging algorithm, a hierarchical paging algorithm, or a last-location paging algorithm (col. 10, lines 52-66).

Regarding claim 22, Hall discloses the method of claim 21, inherently including conserving battery power at the mobile host when the host is in the standby state as evidenced by the fact that less power would be used when the mobile host is not receiving or transmitting data (col. 7, lines 45-51).

Regarding claim 23, Hall discloses the method of claim 21, including transitioning from the active state to the standby state after a determined time out interval in the absence of data exchanged between the mobile host and the network (col. 7, lines 51-57).

Regarding claim 25, Hall discloses the method of claim 24, including receiving the data addressed to the mobile host at a home agent on the network, initiating the page request from the home agent, and directing the page request from the home agent

to at least one of the base stations in the paging area for mobile host (col. 7, lines 39-67).

Regarding claim 26, Hall discloses the method of claim 24, including receiving data addressed to the mobile host at a home agent on the network, and tunneling the data from the home agent to a designated foreign agent on the network (col. 7, line 62-col. 8, line 11 and col. 8, line 44-col. 9, line 5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hall.

Regarding claim 6, Hall discloses the method of claim 5 as described above. Hall, however, fails to disclose delivering data later received at the home agent and destined to the mobile host, to the mobile host while the host is in the active state.

The examiner contends, however, that at the time of invention, it would have been obvious to a person of ordinary skill in the art to transmit the mobile host data if more information directed to the host is available while the host is an active state, as such limitation would reduce the number of times the host needs to be pages, thereby saving system resources.

Allowable Subject Matter

5. Claims 14-20 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 14 and 27, prior art fails to suggest or render obvious a method of receiving data addressed to a mobile host at a home agent on the network, defining a domain root router along a path on the network between the home agent and the current paging area for the mobile host, and sending update messages to the domain root router from the mobile host (i) when the host detaches from one base station and re-attaches to another base station while the host is in the active state, and (ii) only when the host re-attaches to a base station outside the current paging area while the host is in the standby state, thereby developing routing information concerning the mobile host at each node in a path between a last-serving base station for the mobile host and the domain root router.

Regarding claims 15-20, they are indicated allowable based on their dependence from allowable claim 14.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sasamoto, U.S. Patent No. 6,647,264, discloses a mobile communication system and method for transmission of connection-less packets.

Willars, U.S. Patent No. 6,480;476, discloses variable sleep mode for mobile stations in a mobile communications system.

Verdonk, U.S. Patent No. 6,330,454, discloses a system and method for locating mobile units operating within a wireless communication system.

Wallentin et al, U.S. Patent No. 6,292,667, discloses a multicell area paging for cellular telecommunications systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Beamer whose telephone number is (703) 306-5837. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Temica M. Beamer
Examiner
Art Unit 2681

November 24, 2004